

In the Claims

1 1. [Original] In a networked computer system including at least one
2 client system, a resource server and at least one system resource accessible to
3 the resource server wherein the at least one client system and the resource
4 server are interconnected by a communications network and wherein a client
5 system includes a processor for executing an application program for issuing a
6 resource job including job instructions directing a resource to perform an
7 operation and job data to be operated upon by the resource in performing the
8 operation to the resource server, the resource server being responsive to a
9 resource job for directing the job instructions and job data to a resource
10 accessible to the resource server and the resource being responsive to the job
11 instructions and job data for returning corresponding job result information to the
12 resource server, a system resource usage monitoring system, comprising:

13 in the resource server,

14 a job processor for

15 forwarding the job instructions and job data of a resource job to a
16 resource accessible to the resource server, and

17 extracting job attribute information from the resource job wherein the job
18 attribute information includes information identifying system resources to be
19 used in executing the resource job,

20 a resource agent for

21 receiving job attribute information from the job processor and job result
22 information returned from the resource wherein the job result information
23 identifies the results achieved by the resource in response to the resource job,
24 and

25 forwarding the job attribute information and the job result information to a
26 collecting server,

27 the collecting server including

28 a resource collector for receiving the job attribute information and the job
29 result information and generating corresponding job detail information
30 representing system resources used in executing the resource job, and

31 a database for storing the job details.

1 2. [Original] The resource usage monitoring system of claim 1,
2 further comprising:

3 a resource manager system communicating with the collecting server
4 through the network for reading the job details from the database and providing
5 the job details to a user of the resource manager system for monitoring resource
6 usage.

1 3. [Original] The resource usage monitoring system of claim 1,
2 wherein:

3 the resource agent includes a dynamic discovery function for identifying a
4 current location of a current resource collector on the network and transmitting
5 job attribute information and job result information to the current collecting
6 server.

1 4. [Original] The resource usage monitoring system of claim 1,
2 wherein:

3 the system resource manager includes a dynamic discovery function for
4 identifying a current location of a current collecting server on the network and
5 reading job details from the database in the current collecting server.

1 5. [Original] The resource usage monitoring system of claim 1,
2 wherein:

3 a client system further includes

4 a local resource accessible to the client system, wherein the client system
5 transmits the job instructions and job data of a resource job to the local
6 resource, and

7 a job capture mechanism for

8 capturing the job instructions and job data transmitted to the local
9 resource and job result information returned by the local resource,

10 extracting the job attribute information from the captured job instructions
11 and job data, and

12 forwarding the job attribute information and job result information to the
13 resource server.

1 6. [Original] The resource usage monitoring system of claim 1,
2 wherein:

3 a client system further includes

4 a local resource accessible to the client system, wherein the client system
5 transmits the job instructions and job data of a resource job to the local
6 resource, and

7 a job capture mechanism for

8 capturing the job instructions and job data transmitted to the local
9 resource and job result information returned by the local resource, and

10 forwarding the job instructions, job data and job result information to the
11 resource server.

1 21. [Amended] In a networked computer system including at least one
2 client system, a print server and at least one printer accessible to the print
3 server wherein the at least one client system and the print server are
4 interconnected by a communications network and wherein a client system
5 includes a processor for executing an application program for issuing a print job
6 including print instructions for printing a document file and document data to be
7 printed to the print server, the print server being responsive to a print job for
8 directing the print instructions and document data to a printer accessible to the
9 print server being responsive to the print instructions and document data for
10 providing corresponding job result information to the print server, a system
11 resource usage monitoring system, comprising:

12 in the print server,

13 a job processor for

14 forwarding the print instructions and document data of a print job to a
15 printer accessible to the print server, and

16 extracting job attribute information from the print job wherein the job
17 attribute information includes information identifying system resources to be
18 used in executing the print job,

19 a resource agent for

20 receiving job attribute information from the job processor and job result
21 information returned from the printer wherein the job result information identifies

22 the results achieved by the printer in response to the print job, and
 23 forwarding the job attribute information and the job result information to a
 24 resource collecting server,
 25 the resource collecting server including
 26 a resource collector for receiving the job attribute information and the job
 27 result information and generating corresponding job detail information
 28 representing system resources used in executing the print job, and
 29 a database for storing the job details, and
 30 wherein the resource agent includes a dynamic discovery function for
 31 identifying a current location of a current resource collecting server on the
 32 network, for transmitting job attribute information and job result information to
 33 the current resource collecting server.

1 ²²/₈. The resource usage monitoring system of claim ²¹/₇, further
 2 comprising:

3 a resource manager system communicating with the resource collecting
 4 server through the network for reading the job details from the database and
 5 providing the job details to a user of the resource manager system for
 6 monitoring resource usage.

1 [9. Cancel. ✓

1 ²³/₁₀. [Amended] The resource usage monitoring system of claim ²¹/₇,
 2 wherein:

3 the system resource manager includes a dynamic discovery function for
 4 identifying a current location of a the current resource collecting server on the
 5 network, for reading job details from the database in the current resource
 6 collecting server.

1 ²⁴/₁₁. [Original] The resource usage monitoring system of claim ²¹/₇,
 2 wherein:

3 a client system further includes
 4 a local printer accessible to the client system, wherein the client system

5 transmits the print instructions and document data of a print job to the local
 6 printer, and
 7 a job capture mechanism for
 8 capturing the print instructions and document data transmitted to the
 9 local printer and job result information returned by the local printer,
 10 extracting the job attribute information from the captured print
 11 instructions and document data, and
 12 forwarding the job attribute information and job result information to the
 13 print server.

1 ²⁵₁₂. [Original] The resource usage monitoring system of claim ²¹₇,
 2 wherein:

3 a client system further includes
 4 a local printer accessible to the client system, wherein the client system
 5 transmits the print instructions and document data of a print job to the local
 6 printer, and
 7 a job capture mechanism for
 8 capturing the print instructions and document data transmitted to the
 9 local printer and job result information returned by the local printer, and
 10 forwarding the print instructions, document data and job result
 11 information to the print server.

1 ¹¹₁₃. [Original] In a networked computer system including at least one
 2 client system, a resource server and at least one system resource accessible to
 3 the resource server wherein the at least one client system and the resource
 4 server are interconnected by a communications network and wherein a client
 5 system includes a processor for executing an application program for issuing a
 6 resource job including job instructions directing a resource to perform an
 7 operation and job data to be operated upon by the resource in performing the
 8 operation to the resource server, the resource server being responsive to a
 9 resource job for directing the job instructions and job data to a resource
 10 accessible to the resource server and the resource being responsive to the job
 11 instructions and job data for returning corresponding job result information to the

12 resource server, a method for monitoring usage of system resources, comprising
13 the steps of:

14 forwarding a resource job to the resource server,

15 forwarding the job instructions and the job data of a resource job from the
16 resource server to a resource accessible to the resource server,

17 extracting job attribute information from the resource job wherein the job
18 attribute information includes information identifying system resources to be
19 used in executing the resource job,

20 returning job result information from the resource receiving the resource
21 job to the resource server wherein the job result information identifies the results
22 achieved by the resource in response to the resource job,

23 forwarding the job attribute information and job result information
24 returned from the resource to a collecting server,

25 generating corresponding job detail information representing system
26 resources used in executing the resource job, and

27 storing the job details in a database.

1 ¹²~~11~~ 1/4. [Original] The method for monitoring usage of system resources of
2 claim ~~13~~, further comprising the steps of:

3 communicating with the collecting server through the network for reading
4 the job details from the database and reading the job details to a user of a
5 resource manager system for use in monitoring resource usage.

1 ¹³~~12~~ 1/5. [Original] The method for monitoring usage of system resources of
2 claim ~~13~~, further comprising the steps of:

3 executing a dynamic discovery function to identify a current location of a
4 current collecting server on the network and transmitting job attribute
5 information and job result information to the current collecting server.

14
16. [Original] The method for monitoring usage of system resources of
claim 13, further comprising the steps of:
executing a dynamic discovery operation to identify a current location of
a current collecting server on the network and reading job details from the
database in the current collecting server.

15
17. [Original] The method for monitoring usage of system resources of
claim 13, further comprising the steps of:
forwarding the job instructions and job data of a resource job from a
client system to a local resource accessible to the client system,
capturing the job instructions and job data transmitted to the local
resource and job result information returned by the local resource,
extracting the job attribute information from the captured job instructions
and job data, and
forwarding the job attribute information and job result information to the
resource server.

16
18. [Original] The method for monitoring usage of system resources of
claim 13, further comprising the steps of:
forwarding the job instructions and job data of a resource job to a local
resource accessible to the client system,
capturing the job instructions and job data transmitted to the local
resource and job result information returned by the local resource, and
forwarding the job instructions, job data and job result information to the
resource server.

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19. [Original] The method for monitoring usage of system resources of
claim 13 wherein the resource is a printer, the resource job is a print job and the
job instructions and job data of the resource job are printing instructions and
document data.

1 ⁷20. [New] The resource usage monitoring system of claim 1, wherein
 2 the job result information comprises an indication that the resource job has been
 3 successfully imaged.

1 ⁸21. [New] The resource usage monitoring system of claim 1, wherein
 2 the job result information comprises a message indicating a time of receipt of
 3 the resource job by the resource.

1 ⁹22. [New] The resource usage monitoring system of claim 1, wherein
 2 the job result information comprises a message indicating a time of completion
 3 of imaging of the resource job.

C² 1 ¹⁰23. [New] The resource usage monitoring system of claim 1, wherein
 2 the job result information comprises information regarding an amount of a
 3 consumable used to image the resource job.

1 ¹⁸24. [New] The method for monitoring usage of system resources of
 2 claim ¹¹13, wherein the job result information comprises an indication of whether
 3 the print job has been successfully printed.

1 ¹⁹25. [New] The method for monitoring usage of system resources of
 2 claim ¹⁸24, wherein the job result information comprises a message indicating a
 3 time of receipt of the resource job by the resource and a time of completion of
 4 imaging of the resource job.

1 ²⁰26. [New] The method for monitoring usage of system resources of
 2 claim ¹⁹25, wherein the job result information comprises information regarding an
 3 amount of a consumable used to image the resource job.